

Soward Antenna Debugging Report

Customer Name: Hengchen

Project name: DPF1606 (16 inch plastic case-MT8167)

Date: 2025.06.25

Project Contact Information

Customer contact:

Hands machine :

post chest :

Sovard structure:

Hands machine :

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Hands machine :

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project brief

1 Project Description

Number of project antennas	Type of machine
1	wifi photo frame
Whole machine shell material: 10 inch plastic shell	

2 Brief Description of the Antenna

Antenna number	name	Working frequency band/MHZ	Material/structure
1	WIFI & BT	2400MHZ / 2500MHZ	FPC

WIFI antenna active data

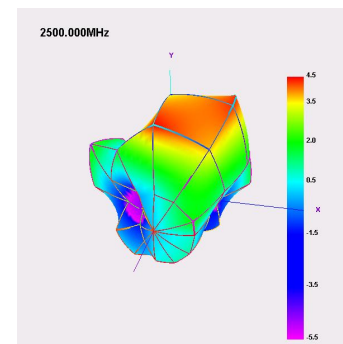
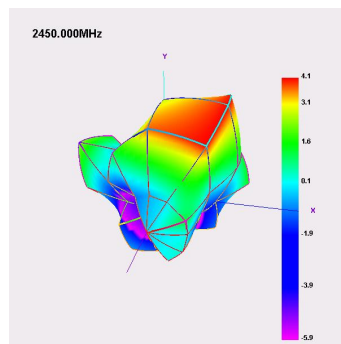
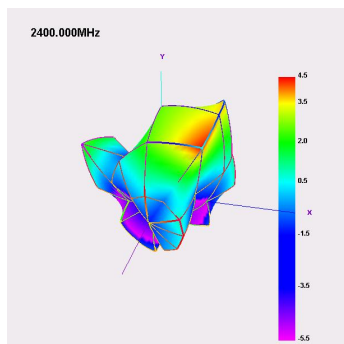
pattern	Machine status/channel	Bright screen Minimum brightness # 1		Bright screen Minimum brightness # 2	
		power	sensitivity	power	sensitivity
b pattern (11MHz)	1	13. 16	-80. 5	12. 62	-79. 53
	7	14. 59	-83. 51	13. 75	-82. 78
	13	15. 16	-84. 61	14. 49	-84. 2
g pattern (54MHz)	1	11. 9	-69. 42	10. 94	-69. 03
	7	12. 26	-71. 92	11. 62	-70. 19
	13	12. 01	-72. 09	11. 43	-70. 47
n pattern (MCS7)	1	12. 55	-67. 72	11. 99	-66. 22
	7	12. 39	-69. 75	11. 64	-68. 17
	13	12. 95	-70. 46	12. 49	-68. 78

WIFI&BT antenna S11

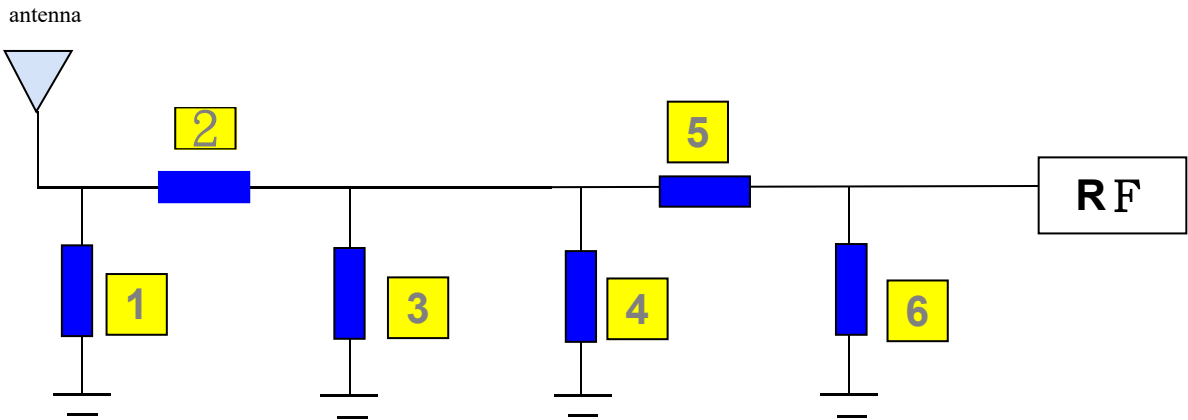


WIFI&BT antenna efficiency

Passive Test For 2.4Gwifi						
Freq	Effi	Effi	Gain	Gain	Max	Min
(MHz)	(%)	(dB)	(dBi)	(dBd)	(dB)	(dB)
2400	41.5	-3.82	4.49	2.34	4.49	-8.79
2410	58.5	-2.33	4.14	1.99	4.14	-9.63
2420	58.21	-2.35	4.31	2.16	4.31	-10.2
2430	56.6	-2.47	4.58	2.43	4.58	-9.9
2440	45.55	-3.41	4.9	2.75	4.9	-8.58
2450	46.91	-3.29	4.07	1.92	4.07	-9.44
2460	39	-4.09	3.86	1.71	3.86	-9.71
2470	41.9	-3.78	2.63	0.48	2.63	-11.11
2480	43.92	-3.57	2.7	0.55	2.7	-11.42
2490	51.4	-2.89	3.11	0.96	3.11	-11.58
2500	47.04	-3.27	4.51	2.36	4.51	-10.77



Antenna Loading Coil



The antenna match is not changed.

main antenna	1	2	3	4	5	6	remarks
Original match							
Change matching							

Note: 1. This report is based on the actual debugging and testing of the debugging prototype, in which the environmental treatment, antenna position and assembly position of each component cannot be changed at will;

2. If there is any change in the materials used in the prototype, please give feedback to our company for re-verification;

3. List of sensitive components:

TP (material, coating, wiring, etc.)

Screen (amplifier circuit, LED, wiring design, etc.)

Shell material (antenna assembly mode, structural interference, shell material, antenna height and area, etc.)

Mainboard (mainboard conduction, RF circuit matching, PA, dual power supply, filter, LNA, power supply circuit, etc.) camera, battery, motor, MIC, fingerprint recognition module, etc

4. Due to the small number of debugging prototypes or only one, some probabilistic problems can not be completely found out. It is recommended to conduct a small batch trial production to troubleshoot the problem points (such as flash screen and screen, speaker noise, TP jump point, black screen and crash, signal dive, etc.) before mass production.